

REMARKS

Claims 1-12 and 14-21 are now pending in the application. The Examiner is respectfully requested to reconsider and withdraw the rejection(s) in view of the amendments and remarks contained herein.

DRAWINGS

The drawings stand objected to because the claimed "pulse generating means" does not appear to be shown in the drawings. Notwithstanding, Applicant respectfully asserts that in Figures 24, 29, and 31 the term "reference pulse" is used. One skilled in the art would readily acknowledge and appreciate that the reference pulse is generated by the claimed "pulse generating means." Accordingly, Applicant respectfully asserts that the term "pulse generating means" is fully disclosed by the Specification and Drawings as originally filed. As such, Applicant respectfully requests reconsideration and withdrawal of the objection to the drawings.

SPECIFICATION

The abstract stands objected to for certain informalities. Applicant has amended the abstract according to the Examiner's suggestions. Therefore, reconsideration and withdrawal of this objection are respectfully requested.

CLAIM OBJECTIONS

Claims 1-27 stand objected to because of various informalities. Applicant has amended the claims to eliminate the informalities cited by the Examiner. Accordingly, reconsideration and withdrawal of the objections to the claims is respectfully requested.

REJECTION UNDER 35 U.S.C. § 103

Claims 1, 12, 19, 21, and 25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Fujii (U.S. Pat. No. 5,975,668) in view of Takazawa (U.S. Pub. No. 2002/0018090). This rejection is respectfully traversed.

Claim 1 has been amended to include the subject matter of Claim 13. Claim 1, therefore, now recites a switching means for switching a connection of the actuator from the driving circuit to the injection failure detecting means after carrying out a droplet ejection operation by driving the actuator. Neither Fujii nor Takazawa teach or suggest such a device.

With the above configuration the claimed invention is directed to a device that can detect the presence or absence of an ejection failure based on a time period until the residual vibration of the diaphragm is generated after the droplet has been ejected, and the cause of the ejection failure (intrusion of air bubbles, thickness due to drying, and adhering to paper dust) is determined on the basis of the count value of the cycle of the residual vibration. Neither Fujii nor Takazawa teach, suggest, or provide motivation for such a device. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

Claims 1, 2, 5, 12, 21, and 25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Fujii in view of Nishihara (U.S. Pub. No. 2002/014450). This rejection is respectfully traversed.

As stated above, Claim 1 has been amended to include the subject matter of Claim 13. Neither Fujii nor Nishihara teach or suggest this limitation. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

Claims 2-4 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Fujii in view of Takazawa and further in view of Fujii (U.S. Pub. No. 2001/0007460). This rejection is respectfully traversed.

Claims 2-4 depend from independent Claim 1, addressed above. These claims are not obvious for at least the same reasons.

Claim 5 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Fujii in view of Takazawa, and further in view of Ishinaga (U.S. Pub. No. 2002/0149657). This rejection is respectfully traversed.

Claim 5 depends from Claim 1, addressed above. Claim 5 is not obvious for at least the same reasons.

Claim 6 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Fujii in view of Takazawa and Ishinaga, and further in view of Kawamura (U.S. Pat. No. 4,577,203). This rejection is respectfully traversed.

Claim 6 is dependent on Claim 1, addressed above. Claim 6 is not obvious for at least the same reasons.

Claim 6 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Fujii in view of Takazawa and Ishinaga, and further in view of Yamaguchi (U.S. Pat. No. 5,379,061). This rejection is respectfully traversed.

As stated above, Claim 6 depends from Claim 1. Claim 6 is not obvious for at least the same reasons.

Claim 7 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Fujii in view of Takazawa and Ishinaga, and further in view of Noyes (U.S. Pat. No. 6,364,452). This rejection is respectfully traversed.

Claim 7 depends from Claim 1, addressed above. Claim 7 is not obvious for at least the same reasons.

Claim 7 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Fujii in view of Takazawa and Ishinaga, and further in view of Fujii (U.S. Pat. No. 6,299,277) and Yamaguchi. This rejection is respectfully traversed.

Claim 7, as stated above, depends from Claim 1. Claim 7 is not obvious for at least the same reasons.

Claim 8 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Fujii in view of Takazawa, and further in view of Nishida (U.S. Pub. No. 2003/0146742). This rejection is respectfully traversed.

Claim 8 depends from independent Claim 1, addressed above. Claim 8 is not obvious for at least the same reasons.

Claim 9 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Fujii in view of Takazawa and Nishida, and further in view of Kawamura. This rejection is respectfully traversed.

Claim 9 depends from Claim 1. Claim 9 is not obvious for at least the same reasons.

Claim 9 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Fujii in view of Takazawa and Nishida, and further in view of Yamaguchi. This rejection is respectfully traversed.

Claim 9 is dependent on Claim 1. Claim 9 is not obvious for at least the same reasons.

Claim 10 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Fujii in view of Takazawa and Nishida, and further in view of Noyes. This rejection is respectfully traversed.

Claim 10 depends from Claim 1, addressed above. Claim 10 is not obvious for at least the same reasons.

Claim 10 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Fujii in view of Takazawa and Nishida, and further in view of Fujii. This rejection is respectfully traversed.

Claim 10, as stated above, is dependent on Claim 1. Claim 10 is not obvious for at least the same reasons.

Claim 11 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Fujii in view of Takazawa, Nishida, and Noyes or Fujii, and further in view of Yamaguchi. This rejection is respectfully traversed.

Claim 11 is dependent on Claim 1. Claim 11 is not obvious for at least the same reasons.

Claim 13 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Fujii in view of Takazawa, and further in view of Sakagami (U.S. Pub. No. 2004/0239714). This rejection is respectfully traversed.

As stated above, Claim 1 has been amended to include the subject matter of Claim 13. Accordingly, the rejection of Claim 13 is moot. Furthermore, amended Claim 1 which includes the limitations of former Claim 13 would not have been obvious in view of Fujii, Takazawa, and Sakagami. This is because Sakagami is commonly owned by Seiko Epson Corporation and only qualifies as prior art under 35 U.S.C. § 102(e).

STATEMENT OF COMMON OWNERSHIP

The present application Serial No. 10/807,920 filed on March 24, 2004, and application Serial No. 10/797,594 filed on March 10, 2004, were, at the time the present invention was made, commonly owned by Seiko Epson Corporation.

As stated above, the Sakagami reference and the present invention are commonly owned by Seiko Epson Corporation. As such, Sakagami may not be used in a rejection against the claimed invention under 35 U.S.C. § 103. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

Claims 14-18 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Fujii in view of Takazawa, and further in view of Sakagami (U.S. Pub. No. 2005/0122360). This rejection is respectfully traversed.

Claims 14-18 depend from Claim 1, addressed above. These claims are not obvious for at least the same reasons.

Claims 20, 22, 24, and 27 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Fujii in view of Takazawa, and further in view of Nakazawa (U.S. Pat. No. 6,174,038). This rejection is respectfully traversed.

Claim 20 depends from Claim 1, addressed above. This claim is not obvious for at least the same reasons.

With respect to Claims 22, 24, and 27, these claims are cancelled. Accordingly, the rejection of these claims is moot.

Claim 23 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Fujii in view of Takazawa and Nakazawa, and further in view of Fujii (U.S. Pub. No. 2001/0007460). This rejection is respectfully traversed.

Claim 23 is cancelled. The rejection of this claim, therefore, is moot.

Claim 23 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Fujii in view of Takazawa and Nakazawa, and further in view of Nishihara. This rejection is respectfully traversed.

Claim 23 is cancelled. The rejection of this claim, therefore, is moot.

Claim 26 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Fujii in view of Takazawa, and further in view of Nishida. This rejection is respectfully traversed.

Claim 26 is also cancelled. The rejection of Claim 26, therefore, is moot.

DOUBLE PATENTING

Claims 1-27 stand provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over co-pending Application No. 10/824,335. Applicant elects to defer filing a Terminal Disclaimer until the Examiner considers the claims, as amended.

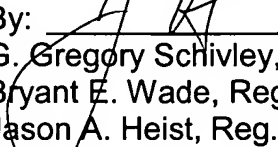
CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and

favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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By: 
G. Gregory Schivley, Reg. No. 27,382
Bryant E. Wade, Reg. No. 40,344
Jason A. Heist, Reg. No. 51,797

HARNESS, DICKEY & PIERCE, P.L.C.
P.O. Box 828
Bloomfield Hills, Michigan 48303
(248) 641-1600

GGG/BEW/JAH